ASSESSMENT OF NAVY CAPABILITIES TO ESTIMATE THE COST OF THE TRANSFORMATION

2002 DODCAS

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30 JANUARY 2002

Outline

- Meaning of Transformation to the Navy
- Areas of Transformation
- Capabilities to Estimate Costs
- Summary and Conclusions

Contributing Organizations

- Naval Center for Cost Analysis (NCCA)
- Naval Air Systems Command (NAVAIR 4.2)
- Naval Sea Systems Command (NAVSEA 017)
- Space and Naval Warfare Systems Command (SPAWAR)
- OSD Cost Analysis Improvement Group (CAIG)

Meaning of Transformation to the Navy

- Developing weapon systems capable of rapid engagements and high-volume precision strike
- Developing sensor and network-based systems capable of persistent surveillance and tracking
- Developing platforms and weapons capable of countering projected anti-access and area-denial threats
- Reorienting itself to put more forces forward to reassure allies, provide deterrence and quickly defeat our adversaries

Four Major Areas of Navy Transformation

- Achieving Information and Decision Superiority
- Striking with Precision
- Deploying and Sustaining Military Power Rapidly
- Dominating Land, Sea, Air, and Space Battlespace

Achieving Information and Decision Superiority

- Objective: Navy will achieve greatly enhanced lethal warfighting capability by coupling comprehensive surveillance with high-volume strike
- Means:
  - Advanced Deployable System (ADS) and Unmanned Underwater Vehicles (UUVs) will monitor littoral environment on and below the ocean's surface
  - Navy will take advantage of manned and unmanned platforms with upgraded sensor suites
  - Cooperative Engagement Capability (CEC) system will tie Battle Groups' airborne and ship borne sensor systems into a single network

Striking with Precision

- Objective: Provide increased covert strike and special operations capability
- Means:
  - Tactical Tomahawk Missile (TACTOM) will provide precision strike capability at fixed and mobile targets
  - Extended Range Gun Munition (ERGM) will more than triple the range at which ships can provide artillery support to troops on the ground
  - Small-diameter bomb will significantly increase the number of targets that carrier-based aircraft can strike with precision guided munitions in a single sortie

Deploying and Sustaining Military Power Rapidly

- Objective: Provide faster, more responsive world-wide logistics distribution and deployment through greater mobility and sustainment
- Means:
  - Advanced capability ships
  - Pre-positioned assets
  - Faster sealift capability

Dominating Land, Sea, Air and Space Battlespace

- Objective: Counter threats at-sea and ashore
- Means:
  - Evolved Sea Sparrow Missile (ESSM) on carriers, large-deck amphibious ships and new destroyers will counter anti-ship cruise missiles (ASCM)
  - For ships not carrying ESSM, a projectile that can be fired from a standard Navy 5-inch gun will be developed to counter the ASCM-armed small-boat threat
  - SSGN will enhance the Navy's capability to impact the ground campaign with large numbers of Special Operations Forces
  - New surface combatant with advanced hull forms and new technologies will enhance operations in littoral environment (smaller ships for faster maneuver)

Capabilities to Estimate Costs

- Following assessments are based on the assumption that an established baseline is available for all systems
- Dependent on Cost Analysis Requirements Description (CARD) availability
  - Desired for Milestone A
  - Essential for Milestones B and C
- In the absence of a CARD, future systems:
  - Might use high level parametrics/CERs
  - Might estimate at the total system or program level
- Need data: cost, schedule, technical
- Need cost estimating methods/models/CERs

Navy Cost Estimating Capabilities
Achieving Information and Decision Superiority

UNITS/FORCES	DEV.	PROC.	O&S
UUV	Poor	Poor	Poor
CEC	N/A	Good	Fair
E-2C Upgrade	Fair	Good	Good
GCCS	Fair	Fair	Fair
GBS Upgrade	Good	Good	Fair
TUAV	Good	Good	Good

Navy Cost Estimating Capabilities
Striking with Precision

UNITS/FORCES	DEV.	PROC.	O&S
V-22	Poor	Fair	Fair
SSGN Conversion	Fair	Good	Good
AAAV	Good	Good	Good
Stealthy JLRCM	Fair	Fair	Fair
ERGM	Fair	Good	Fair
Small Diameter Bomb	Fair	Fair	Fair
JSF	Fair	Fair	Fair

Navy Cost Estimating Capabilities
Deploying and Sustaining Military Power Rapidly

UNITS/FORCES	DEV.	PROC.	O&S
High Speed Sealift (45 knots)	Poor	Poor	Poor
Joint Logistics-over-the Shore (JLOTS)	Poor	Poor	Poor
Modernize Maritime and Afloat Pre-Positioning Forces	Fair	Fair	Good
Advanced Strategic Tanker	Fair	Good	Good

Navy Cost Estimating Capabilities
Dominating Land, Sea, Air and Space Battlespace

UNITS/FORCES	DEV.	PROC.	O&S
ESSM	N/A	Good	Good
Mine Countermeasures	Fair	Fair	Fair
MMA	Good	Good	Good
LITTORAL WARFARE SHIP	Fair	Fair	Good
ADS	N/A	Good	Fair
AESA	Fair	Good	Good

Summary and Conclusions

- Capability to estimate the cost of transformation is Fair overall
  - For defined systems, requires about the same types of resources as during the Cold War
  - Requires databases/models/CERs as before
- Must have adequate system descriptions (CARDs)
- Ability to estimate the cost of individual systems under the transformation umbrella is commensurate with the capabilities described in the 2001 IDA Cost Research Catalog
- Future systems are very difficult to estimate
  - Generalized, non-specific systems
  - Vague technical and programmatic information available

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